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## ABSTRACT OF THE DISCLOSURE

A method of allocating memory in a data processing system 10 and a memory allocation mechanism 54 are provided. Memory is allocated by the memory allocation mechanism in response to a memory allocation request 56 from a process 50 running on the system 10. The request 56 includes data identifying the size of the block required and an indication of a mask bit pattern. The memory allocation mechanism receives the request, selects a block of memory having an appropriate size and having an address with a bit pattern which corresponds correctly to the indicated mask bit pattern, and allocates the selected block of memory to the process.